



■ Features :

- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- Class I, Div 2 Hazardous Locations T4
- LED indicator for power on
- DC OK relay contact
- No load power consumption<0.75W
- 100% full load burn-in test
- 3 years warranty



SPECIFICATION

MODEL		MDR-60-5		MDR-60-12		MDR-60-24		MDR-60-48	
OUTPUT	DC VOLTAGE	5V		12V		24V		48V	
	RATED CURRENT	10A		5A		2.5A		1.25A	
	CURRENT RANGE	0 ~ 10A		0 ~ 5A		0 ~ 2.5A		0 ~ 1.25A	
	RATED POWER	50W		60W		60W		60W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p		120mVp-p		150mVp-p		200mVp-p	
	VOLTAGE ADJ. RANGE	5 ~ 6V		12 ~ 15V		24 ~ 30V		48 ~ 56V	
	VOLTAGE TOLERANCE Note.3	± 2.0%		± 1.0%		± 1.0%		± 1.0%	
	LINE REGULATION	± 1.0%		± 1.0%		± 1.0%		± 1.0%	
	LOAD REGULATION	± 1.5%		± 1.0%		± 1.0%		± 1.0%	
	SETUP, RISE TIME Note.5	500ms, 30ms/230VAC		500ms, 30ms/115VAC at full load					
HOLD UP TIME (Typ.)	50ms/230VAC		20ms/115VAC at full load						
INPUT	VOLTAGE RANGE	85 ~ 264VAC		120 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz							
	EFFICIENCY (Typ.)	78%		86%		88%		87%	
	AC CURRENT (Typ.)	1.8A/115VAC		1A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC		60A/230VAC					
	LEAKAGE CURRENT	<1mA / 240VAC							
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed							
	OVER VOLTAGE	6.25 ~ 7.25V		15.6 ~ 18V		31.2 ~ 36V		57.6 ~ 64.8V	
		Protection type : Shut down o/p voltage, re-power on to recover							
FUNCTION	DC OK SIGNAL	Relay contact rating(max.): 30V/1A resistive							
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	± 0.03%/℃ (0 ~ 50℃)							
	VIBRATION	Component : 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes ; Mounting : Compliance to IEC60068-2-6							
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, UL60950-1, TUV EN60950-1,Class I, Div. 2 Group A, B, C, D Hazardous Locations T4, EAC TP TC 004, BSMI CNS14336-1 approved							
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC		I/P-FG:2KVAC		O/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25℃ / 70% RH							
	EMC EMISSION	Compliance to EN55011, EN55032 (CISPR32), EN61204-3 Class B, EN61000-3-2,-3, EAC TP TC 020, CNS13438 Class B							
	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN55024, EN61000-6-2, EN61204-3, heavy industry level, criteria A, EAC TP TC 020							
OTHERS	MTBF	299.2K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	40*90*100mm (W*H*D)							
	PACKING	0.33Kg; 42pcs/14.8Kg/0.82CUFT							
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) 5. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).								

Case No.962A Unit:mm



Block Diagram

The block diagram illustrates the power supply system architecture. It starts with an I/P (Input) and FG (Ground) connection leading into an EMI FILTER. The output of the EMI FILTER goes to a RECTIFIERS & FILTER block. This is followed by a POWER SWITCHING block, which is controlled by a CONTROL block. The CONTROL block also receives feedback from an O.L.P. (Over Load Protection) block. The output of the POWER SWITCHING block goes to another RECTIFIERS & FILTER block. This second RECTIFIERS & FILTER block is connected to a DETECTION CIRCUIT. The DETECTION CIRCUIT has outputs for O.C.P. (Over Current Protection), O.V.P. (Over Voltage Protection), and a feedback signal to the CONTROL block. The final outputs are +V and -V, which are also connected to a ground symbol. A fosc : 60KHz signal is shown at the top right.

Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

Graph showing Load (%) versus Ambient Temperature (°C) for a 5V regulator. The load is constant at 100% from -20°C to 45°C, then decreases linearly to 50% at 70°C. A secondary line for 12V, 24V, and 48V regulators is shown above the 5V line, decreasing from 100% at 45°C to 60% at 70°C.

Ambient Temperature (°C)	5V Load (%)	12V, 24V, 48V Load (%)
-20	100	100
0	100	100
10	100	100
20	100	100
30	100	100
45	100	100
55	90	90
60	80	80
70	50	60

The graph illustrates the relationship between input voltage and load percentage. The x-axis represents input voltage in VAC at 60Hz, ranging from 85 to 264. The y-axis represents the load percentage, ranging from 40 to 100. The load starts at 80% at 85V, increases linearly to 100% at 100V, and then remains constant at 100% for all higher input voltages up to 264V.

Input Voltage (VAC) 60Hz	Load (%)
85	80
100	100
115	100
120	100
140	100
160	100
180	100
200	100
220	100
240	100
264	100